This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

Claims 1 - 2 (Cancelled)

Claim 3. (Currently Amended) The method for updating forwarding table entries in accordance with Claim [[1]] 15, wherein said selection criteria includes an identification of the routing protocol application, said identifying step d) including the step of identifying for deletion said forwarding table entries having a data structure indicating a specific routing protocol application.

Claim 4. (Currently Amended) The method for updating forwarding table entries in accordance with Claim [[1]] 15, wherein said selection criteria includes a range of values indicating versions of particular routing protocol application instances, said identifying step d) including the step of: identifying for deletion said forwarding table entries having a data structure indicating a routing protocol application version value falling within a specific range of protocol application versions.

Claim 5. (Currently Amended) The method for updating forwarding table entries in accordance with Claim [[1]] 15, wherein said generating step a) is performed by one or more network control devices.

Claim 6. (Currently Amended) The method for updating forwarding table entries in accordance with Claim [[1]] 15, wherein said identifying step d) includes the step of generating said selection criteria.

Claim 7. (Currently Amended) The method for updating forwarding table entries in accordance with Claim [[1]] 15, wherein said step of generating said selection criteria is performed by said one or more network control devices.

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Claim 8. (Currently Amended) The method for updating forwarding table entries in accordance with Claim [[1]] 15, wherein said forwarding table is a binary tree structure having leaves comprising said table entries, said identifying step d) including the step of implementing a scanning technique for ascertaining the indicated protocol application version number values at each of said leaves.

Claims 9- 10. (Cancelled)

Claim 11. (Currently Amended) The system as claimed in Claim [[9]] 16, wherein said selection criteria includes an identification of the routing protocol application, said synchronization mechanism identifying for deletion said forwarding table entries having data structure indicating said routing protocol application.

Claim 12. (Currently Amended) The system as claimed in Claim [[9]] 16, wherein said selection criteria includes a range of values indicating versions of particular routing protocol application instances, said synchronization mechanism identifying for deletion said forwarding table entries having a data structure indicating a routing protocol application version value falling within said range.

Claim 13. (Currently Amended) The system as claimed in Claim [[9]] 16, wherein said control mechanism further generates said selection criteria.

Claim 14. (Currently Amended) The system as claimed in Claim [[9]] 16, wherein said forwarding table is a binary tree structure having leaves comprising said table entries, said synchronization mechanism performing scanning of said leaves for ascertaining indicated protocol application version number values of the corresponding data structures at each of the leaves.

Claim 15. (Currently Amended) In a network environment including one or more network processing (NP) devices implemented for communicating packets, each NP device supporting a forwarding table comprising entries to enable forwarding of received data packets from a source

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device to a destination device according to a routing protocol via a network connection, said network processing device receiving forwarding table entries from one or more network control devices executing one or more routing protocol applications, a method for updating forwarding table entries of an existing forwarding table when a routing protocol application has failed in a network control device comprising: ~~The method for updating forwarding table entries in accordance with Claim 1, whereby updating of said forwarding table entries is accomplished~~

a) generating for each forwarding table entry, a data structure indicating identification of the routing protocol application and a version of a particular routing protocol application instance generating said entry, said data structure received by said existing forwarding table and incorporated within a respective forwarding table entry;

b) upon re-starting a failed routing protocol application in a network control device, incrementing a version value of that re-started routing protocol application instance;

c) updating said data structures of the existing forwarding table entries with said incremented protocol application version values;

d) identifying for deletion those existing forwarding table entries having data structures matching a designated selection criteria including an indication of a prior protocol application version value; and,

e) deleting said designated forwarding table entries, whereby forwarding table entries in said existing forwarding table are updated efficiently without disrupting packet forwarding process, and without disrupting network connectivity by having to reconstruct a new forwarding table.

Claim 16. (Currently Amended) A system for ensuring packet routing in a networking environment including one or more network processing (NP) devices implemented for communicating packets, each NP device supporting a forwarding table comprising entries to enable forwarding of received data packets from a source device to a destination device according to a routing protocol via a network connection, said network processing device receiving forwarding table entries from one or more network control devices executing one or more routing protocol applications, said system comprising: ~~The system as claimed in Claim 9, whereby updating of said forwarding table entries is accomplished~~

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control mechanism for generating a data structure indicating identification of the routing protocol application and a version of a particular routing protocol application instance for each entry of an existing forwarding table, said control mechanism further incrementing a version value of a routing protocol application instance in response to re-starting that routing protocol application that has failed in a network control device;

communications interface for enabling forwarding of data structures updated to include said incremented version values of re-started routing protocol application instances to said NP device;

mechanism for incorporating received updated data structures into said forwarding table entry when updating said forwarding table entry; and,

synchronization mechanism for identifying forwarding table entries having data structures matching a designated selection criteria that indicates a prior protocol application version value and deleting those forwarding table entries having data structures matching said designated selection criteria,

whereby forwarding table entries in said existing forwarding table are updated efficiently without disrupting packet forwarding process, and without disrupting network connectivity by having to reconstruct a new forwarding table.

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